Vagueness Without Indefiniteness

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I.

Contemporary discussions do not always clearly distinguish two different forms of vagueness. Sometimes focus is on the *imprecision* of predicates, and sometimes the *indefiniteness* of statements. The two are intimately related, of course. A predicate is imprecise if there are instances to which it neither definitely applies nor definitely does not apply, instances of which it is neither definitely true nor definitely false. However, indefinite statements will occur in everyday discourse only if speakers *in fact* apply imprecise predicates to such indefinite instances. (What makes an instance indefinite is, it should be clear, predicate-relative.) The basic issue in the present inquiry is whether this indefiniteness ever really occurs; the basic question is, Why *should* it ever occur?

It will help to clarify what is not in dispute. Imprecision is definitely a fact: most predicates in ordinary language, with the possible exception of those in the sciences, are imprecise. That is, for nearly all ordinary language predicates, there are sets of possible instances they cannot exhaustively partition into those of which they are definitely true and those of which they are definitely false. Furthermore, there are statements which, while definitely true, are indeterminate in that the sense of the predicate which makes the statement true is not evident. That is, sometimes the form vagueness takes is *over-generality*. When a friend says simply he has met a "nice girl," we may not doubt the truth of his description notwithstanding our inability to determine exactly what 'nice' might entail on this occasion. In addition, it is not uncommon to encounter *indefinite questions* in common discourse, i.e.

questions which cannot be answered simply "Yes" or "No" because the query applies a predicate F to an instance a which is indefinite for it. Similarly, we may find *indefinite hypotheticals*, e.g. "If Fa then <whatever>." And it must be admitted that people not infrequently respond to such questions or hypotheticals with things like: "Whether Fa is unclear," "The antecedent is neither true nor false," "Both Fa and $\sim Fa$," and so forth. But these latter are essentially meta-claims: they amount to saying something definite, viz. "Fa is indefinite." What is being questioned is whether declarative statements like Fa simpliciter, when a is an indefinite instance of F, have any significant role in ordinary discourse.

II.

Assuming to start that we have some freedom in the matter, the obvious question is: *What possible reason is there for applying a predicate to an indefinite instance?* What might one hope to gain thereby? Why should indefinite statements ever occur? That there is some point and utility to vagueness is accepted by all, a doctrine perhaps best reflected in Wittgenstein's remark that "there must be perfect order in even the vaguest sentence." But, of course, Wittgenstein does not appear to have been speaking specifically of indefiniteness. Indeed, often the discussion of the benefits of vagueness focuses on predicate imprecision as opposed to indefiniteness. There are many arguments on behalf of the advantages of vagueness; following are three of the more fundamental. First, it is argued that it is convenient to avoid the burdensome instruments and/or procedures required for e.g. a precise sense of the term 'red'. Second, and somewhat related, is the claim that less precise predicates are better matched to human epistemological constraints, viz. the capabilities of casual observation. And third, it is suggested that imprecise predicates are better suited for handling the continua of reality; indeed, some argue that vagueness is a feature, not (only) of language, but of reality itself. We shall see that arguments

which may seem reasonable in the context of imprecision can become implausible when spelt out in terms of indefiniteness.

First, it is hard to deny that judging whether something is "red" based on casual observation – on how it *looks* – is much more convenient, in most circumstances, than resorting to color charts, spectroscopes, or the like. In that respect, employment of the ordinary vague sense of 'red', which amounts to *looks red*, seems clearly preferable to the employment of a scientifically precisified sense. But this does not establish any benefit for indefiniteness. It should be clear that, in the case of instances for which the ordinary sense is definite, it has an advantage over the scientific sense: we avoid the burden imposed by specialized instruments and/or procedures. But in cases which are indefinite for the ordinary sense of 'red', but definite for the scientific sense, it is evident that the latter is no worse and possibly better. If we aren't willing to undertake the costs of the scientific sense, we won't know whether it applies. But knowing that something is indefinitely red in the ordinary sense is no more helpful than not knowing whether it is (definitely) red or not in the scientific sense. I.e., in neither case do you learn anything about its redness. And if it is worth the trouble of application, 'red' in the scientific sense will be able to communicate information with regard to such instances. In contrast, 'red' in the ordinary sense at best communicates nothing, and at worst is misleading.

Note that imprecision is not helpful *per se*. With regard to those instances which are nonetheless definite for an imprecise predicate, we avoid the disadvantages typically imposed by more elaborate instruments and/or procedures. If precision could be attained effortlessly – if we all had Superman's super-senses – there would be no point to imprecision. But since there usually are costs attendant upon greater precision, imprecision allows us to avoid them when that precision is not needed. Still, the important point is: this indirect advantage of imprecision has nothing to do with indefiniteness. Indeed, quite the opposite; it is when imprecise predicates are nonetheless precise enough to be definite that they are useful.

The second argument for the utility of vagueness takes a more metaphysical approach. The idea is that imprecision invades our concepts and language because of the inherent limitations of our perceptual abilities: it is not so much useful as unavoidable. Our concepts and language are based on experience, and our experiences are naturally constrained by the capabilities of our senses. The most fundamental predicates may seem to be those based on casual observation, viz. *observational predicates*. But, of course, such observation is limited. Especially when confronted by natural continua – e.g. when full illumination shades gradually into complete shadow – there will be differences between instances which are imperceptible. The crucial step is the assumption of what could be called *the principle of observationality* (TPO): if two instances are indiscriminable, then any observational predicate which applies to one applies to the other. Not infrequently, this principle defines what counts as an "observational" predicate. It's plausibility apparently derives from the similarity to Leibniz's Law governing identity: indiscriminability is to observational predicates as identity is to any predicate.

But unless you assume that nothing is unobservable – in effect, that *esse* is *percipi* – TPO is clearly false. As an empirical matter of fact, we will encounter instances of the non-transitivity of indiscriminability: a will look the same as b, b will look the same as c, but a will look different from c. That is, "looks the same as c" will be true of b but not of a, even though a and b are indiscriminable. Precisely in virtue of its non-transitivity, indiscriminability is not the same as identity: not for observational predicates, not for any predicates. As empirical experience attests, instances which appear the same nonetheless can be different. It is not surprising, therefore, that unobservable differences may mount up into observable differences, and thereby affect the applicability of predicates based on casual observation. Consequently, the idea that vagueness has an important connection to the principle of observationality turns out to be recidivist sense data metaphysics. Indiscriminability does not

necessitate imprecision; indeed, because of the non-transitivity of indiscriminability, predicates "observational" in the sense of TPO do not exist.

In the third argument, it is supposed that imprecision in a predicate somehow can be a natural and helpful reflection of continua in reality. However, that cannot be with respect to instances for which it is definite: in that respect, an imprecise predicate is indistinguishable from a precise predicate. So the benefit presumably arises from the predicate's application to indefinite instances. But what kind of "reflection" can this provide? The indefiniteness of the resulting statements is not part of their content: it is not information they communicate. Saying something *indefinite* should not be conflated with saying something *is indefinite*. In fact, indefiniteness inherently compromises the transmission of any content. It is not part of what the statement *says* but only part of what the statement *is*. No doubt anything carries information about itself, in the degenerate sense that it is what it is; but symbol systems can carry information about things other than themselves. The single lamp in the tower is not just a lamp but the signal that the British are coming by land. So far as communication is concerned, indefiniteness is *noise*. An indeterminate number of lamps would not be a helpful signal. A focused picture of the fringe of a cloud is more useful than a blurry picture, at least insofar as knowing something about the cloud is concerned. Even if indefiniteness is somehow part of reality, we are understandably interested in definite knowledge about the nature of that indefiniteness. Conceptual limitations on the availability of that knowledge, however unavoidable, are not in themselves beneficial or desirable.

III.

Consequently, conventional accounts of the point and utility of vagueness tend to founder on the shoal of indefiniteness. We have found an indirect advantage for

imprecision, but what possible benefit can one expect to realize through indefiniteness? It is commonplace that declarative statements may serve a wide variety of purposes, but hard to deny that their primary function involves the communication of information. That function can play out in a number of different ways. We may wish to communicate information, we may wish to communicate *mis*information, or we may wish to *avoid* communicating information. It should be clear by now that indefiniteness is not helpful for communicating information. If indeed listeners are aware that a statement is indefinite, they will know for that reason that nothing of substance follows from its utterance. One does not know whether F applies, or does not apply, to a. On the other hand, if they are not aware of its indefiniteness, they may become misinformed on that account: they may take it that Fa is true. But, of course, one can much more reliably misinform others with utterances that are definitely false. And indeed, while uttering an indefinite statement is a way to avoid communicating anything (at least given that listeners are cognizant of its indefiniteness), one can do so much more reliably by employing over-generality, i.e. by using statements which are true but which leave indeterminate the particular respect in which they are true. It is not necessary to concoct an indefiniteness-friendly logic in order to say nothing.

Of course, we could disambiguate the situation by introducing an explicit representation of indefiniteness, e.g. by incorporating an indefiniteness operator in our logic and discourse. Now at least the listener would know when we regard a statement as neither definitely true nor definitely false. But what would this gain? The listener would know that we regard the instance to which a predicate was applied as indefinite for it, but it is hard to imagine contexts in which this would be helpful information, save perhaps for abstract discussions of the characteristics of predicates. But such discussions are relatively uncommon and recondite. If there is any uncertainty on this score, note that logics explicitly accommodating indefiniteness have been around for about a century, yet have found no champions amongst the producers and consumers of common discourse. Typically, the

determination that a question or hypothetical is indefinite is a request for clarification, not a plea for a more explicit representation of its indefiniteness. In short, there does not seem to be any benefit to indefiniteness that trumps its disadvantageousness with respect to communication.

IV.

Perhaps, then, the indefiniteness supposedly rife in common discourse is not the result of any inherent benefit but rather an unavoidable consequence of the imprecision of ordinary predicates. The story goes something like this. The genius of ordinary language is constituted by the practices of the linguistic communities of which we are members: indeed, we become members of those communities by adopting their practices. Hence, the particular sense of vague predicates like 'red', 'bald', 'heap', 'child', 'tall', etc. is something given to us more or less willy-nilly. Since we cannot choose the circumstances in which we need to employ language, we cannot avoid now and again applying those predicates to instances we believe to be indefinite.

It is amazing how influential this story has been. As if ordinary language were a straitjacket or a set of commandments carved in stone, tolerating no deviation however well-intentioned. But surely *in some respects* what we mean when we use an expression is a function of what we intend it to mean, and what we intend it to be taken to mean by others. (Notwithstanding the fact that we sometimes intend predicates to mean something we don't entirely understand ourselves, as when someone intends their use of 'gold' to carry the same sense that a metallurgist would employ.) If nothing else, the principle of charity impels us to take what a person intends an expression to mean, and what they intend us to take it to mean, into account in determining its meaning.

In fact, ordinary language is a living, evolving creature, impacted constantly by the linguistic intentions of its practitioners. No one has made this point better than Charles Lutwidge Dodgson:

> "When *I* use a word," Humpty Dumpty said, in a rather scornful tone, "it means just what I choose it to mean – neither more nor less."

> "The question is," said Alice, "whether you *can* make words mean so many different things."

> "The question is," said Humpty Dumpty, "which is to be master – that's all."

As connoisseurs of dictionaries are well aware, terms such as 'red', 'bald', 'heap', 'child', 'tall', etc. are associated with a wide variety of different meanings, typically involving qualitative variations on a common theme. For example, here is part of the entry for 'bald' in the OED:

> **2. a.** Having no hair on some part of the head where it would naturally grow; hairless....
> **3.** Without hair (feathers, etc.) on other parts of the body than the head....
> **4.** *transf.* Without the usual or natural covering (in various senses) ....
> **f.** Of a tyre: having a worn tread.

It is implausible that this variety emerged from speakers disallowed from deviating from the extant practices of their linguistic communities. And it is equally implausible that this variety emerged haphazardly, a kind of genetic drift irrespective of the selective intentions of speakers: the community somehow blundering into new senses which no one intends and perhaps of which no one is self-consciously aware.

If you allow that people may adapt the predicates they find in ordinary language to suit their particular circumstances and needs, *a fortiori* you allow that people may ring changes on their meanings with respect to quantity and precision. In short, there is nothing to prevent the utterer of a declarative statement from always selecting or concocting a sense of a "vague" predicate which is *precise enough* to be definite with regard to the relevant instances in the context of its utterance. The reason why indefinite questions and hypotheticals occur, of course, is because interrogators and hypothesizers may not know all the characteristics of the instances involved, and therefore may accidentally employ a sense of an expression that is incapable of categorizing them all as either definitely true or definitely false. People making simple declarative statements do not suffer from this handicap: presumably they know what they are talking about.

V.

It is remarkable that those who celebrate the genius of ordinary language have, in this matter, failed to open its mouth and count its teeth. For anyone who attends to the use of archetypically vague predicates in ordinary language will quickly discover that *indefiniting* – as opposed to asserting or denying – simply does not occur. (Perhaps the only true occurrences of indefinite statements are the *in vitro* examples adduced by writers on vagueness, and arguably they don't count as common discourse.) The following vignettes are suggested as representative examples of the use of vague predicates in ordinary situations.

> *One*: John, up in the rafters, building an extension on his garage, asks Jerry for a "short" length of wood. Jerry, seeing two different lengths that might qualify, asks John which, whereupon John replies, "the bigger one." This

illustrates how a vague expression like 'short' can acquire a particular definite sense in a particular situation.

Two: Bob, aged 35, asks Ralph, 40, how old is the blind date Ralph has arranged for him. Ralph replies, "Oh, she's young." Ralph is being vague; his answer could comport with anyone from 20 to 45. This, of course, is an example of over-generality vagueness. This latter occurs when we avoid communicating specifics by taking advantage of the multiplicity of definite ways in which a term like 'young' might be true; that is, by leaving it unclear which particular sense is being applied.

Three: Following a visit to the video store, Daddy says, "After supper the children will go upstairs to watch the cartoon, while we watch the action thriller." Jimmy then exclaims, "Oh, Daddy, let me stay to watch the thriller." What the term 'child' means, on this occasion, has to do with relative maturity with respect to video content. Daddy will make a definite decision as to whether Jimmy goes or stays, revealing whether or not he regards Jimmy as a 'child' in the relevant sense.

Four: Bill says to Gordon, "The club treasurer is the bald guy talking to the bartender." At one end of the bar is a completely bald man, at the other end are two men talking to the bartender, one of whom is suffering from an obvious onset of male pattern baldness. This is another example of how the details of particular situations, as opposed e.g. to formal stipulation ceremonies, can establish the relevant (definite) sense of a vague expression like 'bald'.

Five: As part of a philosophy project, Norm has arranged a series of color patches ranging from red at one end to orange at the other; there are enough patches that adjacent members of the series cannot be told apart by casual

observation. He asks Lucy where the red ones end and the orange ones begin, and after some thought she replies "Right here," pointing at a particular patch approximately midway through the series. She readily admits that other patches might serve just as well (after all, she can't tell neighboring patches apart), but says "This is just as good a choice as any." The circumstances posed by the sorites paradox are relatively rare and stringent, and force a speaker to utilize a much more precise sense of a vague expression than would otherwise be warranted. But arbitrariness in such situations is irrelevant, as we learn from Buridan's Ass – the fact that many choices are equally good does not imply that any of them are bad.

VI.

We are finally in a position to offer a more satisfying account of the point and utility of vagueness in ordinary language, an account that does not founder on indefiniteness. Sometimes it is more useful to have a single adjustable wrench than a box full of size-specific spanners. Analogously, sometimes it is useful to have terms that have not been tied down to any particular precise meaning: terms whose senses can drawn from, and adapted to, the specific circumstances of their use, instead of being imposed externally according to some context-independent, one-size-fits-all standard. (But, of course, context-independent standards have their own advantages, particularly with regard to science.)

The mistake has been to suppose that vague terms like 'bald' (etc.) are in some relevant respect *single* predicates, unavoidably – *qua* vague – precluding any particular definite meaning. Instead, as we have seen, the string 'bald' is associated with a number of different qualitative essences, each of which can find expression in a whole range of predicates differing with regard to quantity and precision.

(Qualitative *versus* quantitative is an oversimplification, of course.) "Having no hair on some part of the head where it would naturally grow" is the qualitative variant most relevant to the standard version of the sorites. Such flexible, string-associated notions can be employed as adjustable semantic wrenches: they can be clamped down to provide relevant, *precise-enough* meanings in particular communicative circumstances.

In short, the fundamental source of vagueness in ordinary language lies not in imprecise predicates nor in indefinite statements, but in qualitative essences that can manifest themselves in a wide range of just-precise-enough predicates. It is *adaptivity* – contextually adaptive definiteness – that provides the basic *raison d'etre* for vagueness in ordinary language. What is valuable is the ability to generate predicates which are matched to, and just precise enough for, the circumstances in which they are used. Such predicates will typically remain relatively imprecise, but it is not their imprecision we value so much as the adaptivity of the notion from which they spring: its ability to mold meanings to particular conditions, without the nuisance that an arbitrarily prefixed scheme of precision might impose.

Many accounts of the logic of vagueness share a similar formal structure, based on a tri-partite division of statements designed to accommodate borderline cases. In epistemicism you have the *definitely true*, true for all possible meanings of an expression indiscriminable from its unknowable correct meaning; the *definitely false*, false for all such meanings, and the *indefinite*: those statements true for some such meanings and false for others (i.e., neither knowably true nor knowably false). With supervaluationism, you have the *supertrue*, true for all permissible precisifications of the meaning of a predicate; the *superfalse*, false for all such precisifications; and the *indefinite*, the statements which are true for some precisifications but false for others. For adaptive vagueness, you have the *unequivocally true*, true for all legitimate quantitative and precisional variations of

the sense of an expression (e.g. 'bald') associated with a particular qualitative essence (e.g. baldness); the *unequivocally false*, false for all such senses; and the *equivocal*, true for some legitimate sense variations but false for others. Epistemicism is right to insist on classical truth and falsehood; supervaluationism is right to insist on ambiguity; and both are right to insist on a multiplicity of possible meanings. But both err in supposing that this multiplicity involves or requires indefiniteness. With adaptive vagueness, a borderline case of baldness both is and is not bald: the person is 'bald' in some legitimate, precise-enough sense of that expression, and is not 'bald' in another.

VII.

The blame for the fixation on indefiniteness surely lies with the sorites paradox. It has been accorded drive-by treatment above; let us conclude by addressing it more fully. A typical version of the paradox runs:

> A man with 0 hairs on his head is bald.
> If a man with n hairs on his head is bald, then a man with $n+1$ hairs on his head is bald.
> Therefore, a man with 10,000 hairs on his head is bald.

The argument is clearly valid, the first premise is clearly true, and the conclusion is clearly false. Thus the problem lies with the second premise: if we deny it in order to avoid the conclusion, we are committed (by classical logic) to a sense of 'bald' so precise that a single hair can make a difference. If we assume this represents *the* single vague predicate 'bald' then of course any such precisification is absurd. Patently that cannot be *the* meaning; for, if it were, the term 'bald' would not be vague. *Capice?* Consequently, we cannot identify any particular haircount as the

point where 'bald' ceases to be true and begins to be false. The apparent way out is to ameliorate that boundary by interposing indefinite instances. So at least now there is no particular haircount where 'bald' ceases to be definitely true and begins to be definitely false.

The irony is that this maneuver gets you nowhere. For we have replaced the sharp boundary between true and false with sharp boundaries between definitely true and indefinite, and indefinite and definitely false. In a well-known escalation, the continuing effort to avoid sharp boundaries leads to endless levels of higher-order indefiniteness. But even taken *ad infinitum* the effort is doomed to failure, since at the end of the day there still are sharp boundaries: e.g., between the definitely true and anything less than definitely true. This boundary cannot be ameliorated via the indefiniteness maneuver, because obviously there cannot be a category of instances neither definitely true nor anything less than definitely true. Since ultimately indefiniteness does not make things any better, perhaps it was a mistake to invoke it in the first place. Perhaps there is a way to make vagueness and definiteness cohabit.

Suppose that there is no such thing as *the* meaning of 'bald'. Suppose, instead, that that string is associated with an indefinite range of predicates differing, not just qualitatively (as with the OED entries), but within each qualitative variant differing with regard to quantity and precision. For a single meaning of a vague expression substitute a swarm of legitimate variations sharing a common qualitative essence, none having any special precedence over the others. For indefiniteness substitute equivocality. If so, then "solving" the sorites paradox by picking a meaning of 'bald' that is definite with regard to the instances in a soritical series of haircounts is not cheating, nor gainsaying the vagueness of baldness *qua* adjustable wrench. Adaptivity is not betrayed by precise-enough meanings, for it consists, not of any particular such meaning, but of the underlying *ability* – to clamp down definitely on the instances in a specific situation – that produced it.

One is *taking advantage* of that adaptivity by selecting an appropriately definite sense of 'bald' in soritical circumstances.

And admitting that such senses may occur in indefinite variety represents no fall from grace. Presumably, to know what counts as a *legitimate* variation in the sense of 'bald' ('red', 'tall', 'child', etc.) is to know what counts as baldness (redness, tallness, childishness, etc.). Such qualitative essences are indeed elusive; we may not be able to pin down any precise limits to the meanings which may constitute legitimate quantitative and precisional expressions of them. But this kind of indefiniteness does not lead to any persnickety form of higher-order indefiniteness, for it is indefiniteness with respect to legitimacy, not with respect to truth status. The issue concerns whether it is appropriate to use the expression 'bald' to represent a particular meaning, not whether that meaning is less than definite. Suppose someone points at a patch of moss on a boulder and says, "Look, here's a bald spot." Unless this person is fond of poetic inversions, one may doubt the legitimacy of their use of 'bald'. According to the OED, 'bald' generally concerns the *absence*, not presence, of covering. Frankly, one would like to know more about the circumstances to help clear up what the person might possibly have meant to say. But we are pretty safe in assuming they meant to communicate *something*. So our concern over the legitimacy of their use of 'bald' has nothing to do with the truth status of what was said. To put it baldly: adaptivity has no truck with that kind of indefiniteness.

VIII.

The form of vagueness that fundamentally accounts for its point and utility in ordinary language is adaptivity. Vagueness is not indefiniteness, it is pluralistic definiteness – reflecting the benefits of the circumstantially adjustable semantic

wrench. Through adaptivity expressions acquire the further advantages of over-generality and imprecision. Over-generality leverages off the diverse family of legitimate, definite-enough meanings implicit in the adaptivity of a vague expression. We avail ourselves of over-generality when we leave indeterminate the particular meaning making our statement true, in order to communicate as little as possible. However, often our intent is to communicate something of significance, so we endeavor instead to make our particular meaning clear. Typically this will involve relative imprecision: predicates need be only precise enough to be definite in their contexts of usage. But it is in virtue of adaptivity, not indefiniteness, that we benefit from the absence of unnecessary precision. Everyday discourse, however vague, does not contain indefinite statements, and logic perhaps need not trouble itself to accommodate them.